Veteran Suicide: The Impact of Gender and VHA Service Use

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VA HEALTH CARE Defining EXCELLENCE in the 21st Century

Poll Question #1

- What is your primary role in VA?
  - student, trainee, or fellow
  - clinician
  - researcher
  - manager or policy-maker
  - Other

Presentation Overview

- **Background**
  - Suicide in the general US population
  - Suicide among VHA Veterans
- **Study overview**
  - Aims
  - Methods
  - Results
- **Implications and next steps**
- V**A Suicide Prevention Resources**
  - Complementary Women's Health Resources

Poll Question #2

- Which best describes your level of experience in Veteran suicide prevention and/or research activities?
  - have no experience
  - have some experience
  - have a lot of experience

Public Health Burden of Suicide: General US Population

- **10th leading cause of death since 2008**[1]
  - 40,622 deaths in 2012[2]
- **Only leading cause of death for which age-adjusted rates increased significantly from 2011 to 2012**[2]
  - Average annual increase for 2005-2011 was 2.15%[3]
- **4th leading cause of 'years of potential life lost'**[3]
  - YPLL increased from 2005 to 2011, all others stable/decreased
- **Top mechanisms:**
  - Firearms among men, Poisoning among women[4]

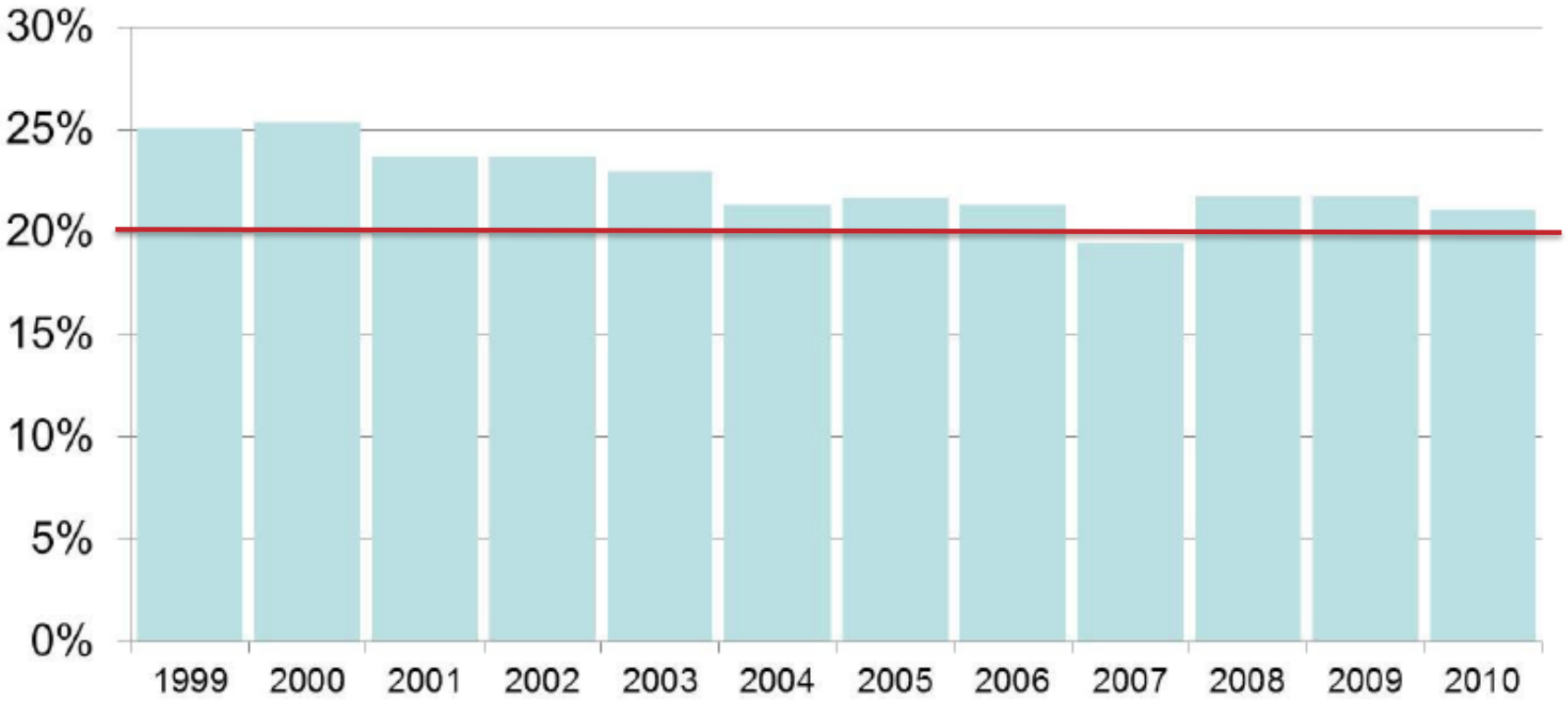
10 Leading Causes of Death by Age Group, United States – 2011

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Congenital Anomalies 5,013	Unintentional Injury 1,337	Unintentional Injury 761	Unintentional Injury 874	Unintentional Injury 12,330	Unintentional Injury 15,518	Unintentional Injury 15,230	Malignant Neoplasms 48,897	Malignant Neoplasms 112,572	Heart Disease 475,097	Heart Disease 596,577
2	Short Gestation 4,106	Congenital Anomalies 493	Malignant Neoplasms 441	Malignant Neoplasms 419	Suicide 4,822	Suicide 6,100	Malignant Neoplasms 11,717	Heart Disease 36,100	Heart Disease 69,742	Malignant Neoplasms 397,106	Malignant Neoplasms 576,691
3	SIDS 1,910	Homicide 412	Congenital Anomalies 182	Suicide 282	Homicide 4,554	Homicide 4,185	Heart Disease 10,635	Unintentional Injury 20,749	Unintentional Injury 15,158	Chronic Low. Respiratory Disease 121,869	Chronic Low. Respiratory Disease 142,943
4	Maternal Pregnancy Comp. 1,591	Malignant Neoplasms 353	Homicide 129	Congenital Anomalies 176	Malignant Neoplasms 1,611	Malignant Neoplasms 3,499	Suicide 6,599	Liver Disease 8,864	Chronic Low. Respiratory Disease 15,044	Cerebro-vascular 109,323	Cerebro-vascular 128,932
5	Unintentional Injury 1,163	Heart Disease 165	Heart Disease 92	Homicide 154	Heart Disease 998	Heart Disease 3,301	Homicide 2,519	Suicide 8,858	Diabetes Mellitus 12,688	Alzheimer's Disease 84,032	Unintentional Injury 126,438
6	Placenta Cord. Membranes 1,004	Influenza & Pneumonia 112	Chronic Low. Respiratory Disease 64	Heart Disease 111	Congenital Anomalies 432	Diabetes Mellitus 686	Liver Disease 2,449	Diabetes Mellitus 6,012	Cerebro-vascular 11,205	Diabetes Mellitus 52,402	Alzheimer's Disease 84,974
7	Bacterial Sepsis 526	Septicemia 61	Influenza & Pneumonia 63	Chronic Low Respiratory Disease 72	Influenza & Pneumonia 220	HIV 666	Diabetes Mellitus 1,842	Cerebro-vascular 5,705	Liver Disease 10,749	Influenza & Pneumonia 45,386	Diabetes Mellitus 73,831
8	Respiratory Distress 513	Chronic Low Respiratory Disease 53	Benign Neoplasms 40	Influenza & Pneumonia 55	Cerebro-vascular 186	Cerebro-vascular 530	Cerebro-vascular 1,718	Chronic Low. Respiratory Disease 4,634	Suicide 6,521	Unintentional Injury 43,258	Influenza & Pneumonia 53,826
9	Circulatory System Disease 500	Benign Neoplasms 45	Cerebro-vascular 40	Cerebro-vascular 47	Complicated Pregnancy 172	Influenza & Pneumonia 515	HIV 1,619	HIV 2,781	Septicemia 4,953	Nephritis 37,796	Nephritis 45,591
10	Neonatal Hemorrhage 456	Cerebro-vascular 42	Septicemia 38	Septicemia 31	Chronic Low. Respiratory Disease 170	Liver Disease 505	Influenza & Pneumonia 859	Septicemia 2,461	Nephritis 4,754	Septicemia 26,746	Suicide 39,518

Data Source: National Vital Statistics System, National Center for Health Statistics, CDC.
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC using WISQARS™.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

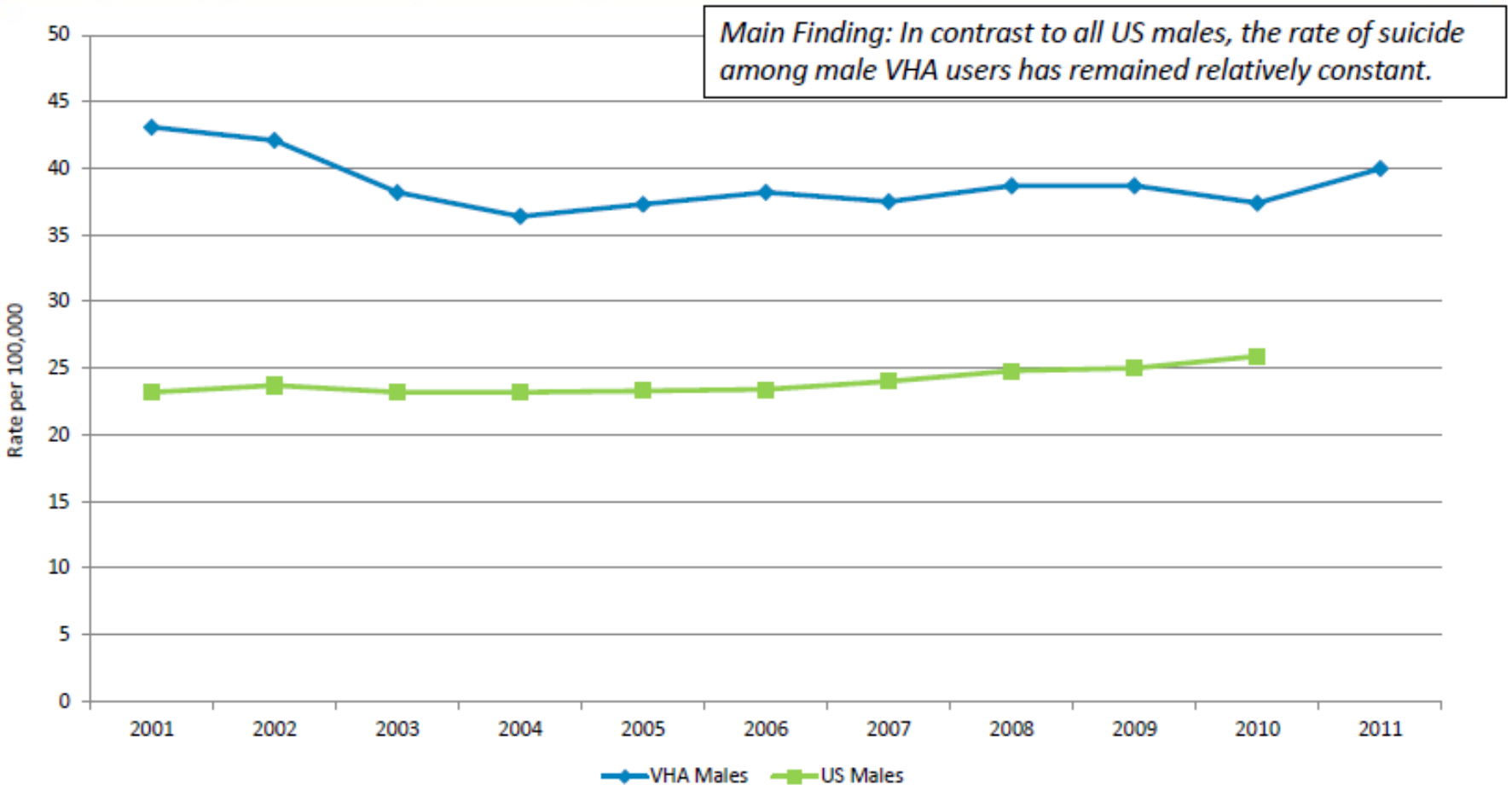
Veteran Suicide:
> 20% of adult decedents



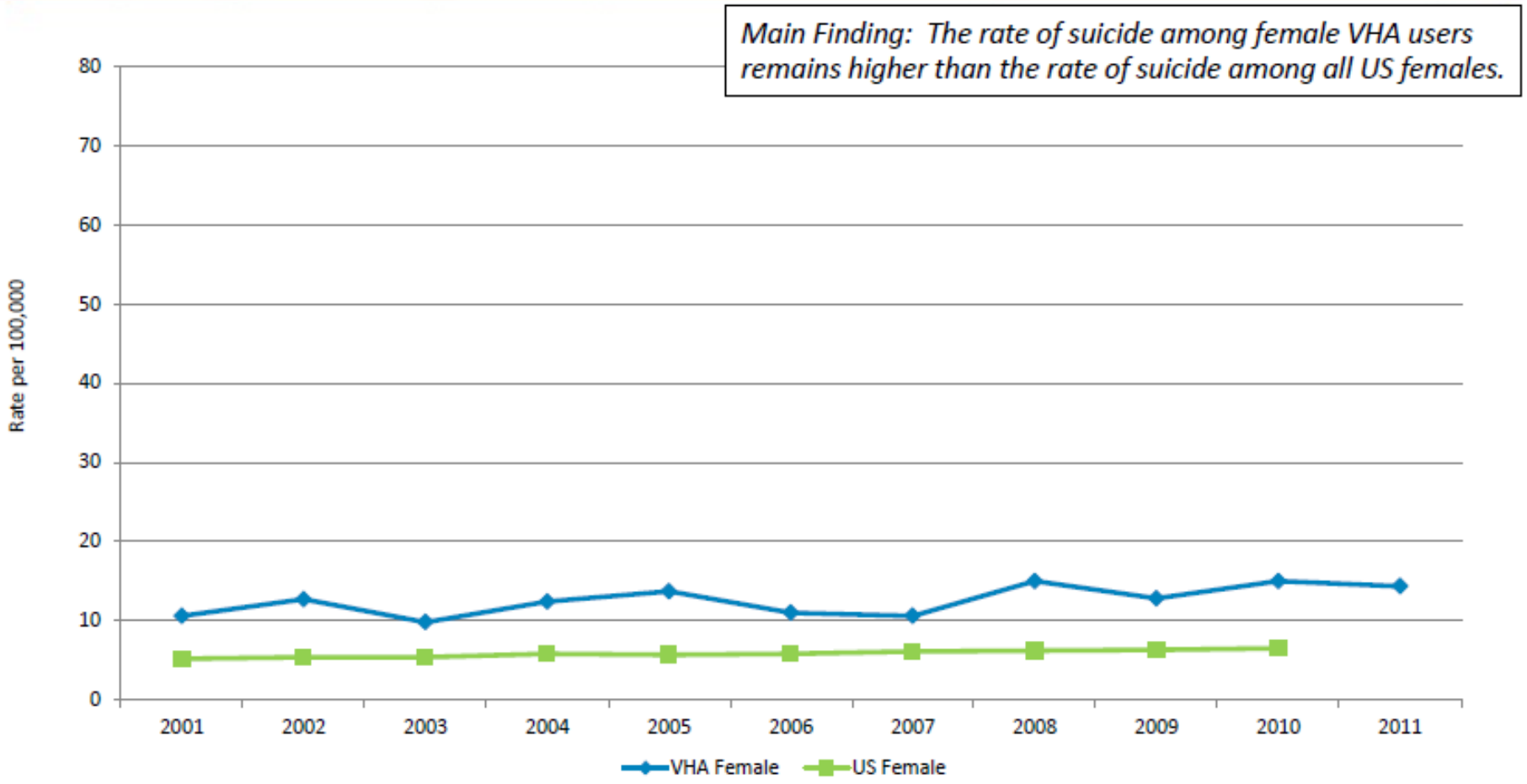
Veteran Status Missing from Death Certificate – Maine, North Carolina, Massachusetts, West Virginia, Oklahoma (1999-2003), Nebraska (1999-2004), Minnesota (2010)

[5]VA Suicide Data Report, 2012

2014 update to the VA Suicide Data Report:
Suicide Rates per 100,000 among Male VHA Users and US Males, by year[6]



2014 update to the VA Suicide Data Report:
Suicide Rates per 100,000 among Female VHA Users and US Females, by year[6]



Key gaps in understanding the epidemiology of Veteran Suicide

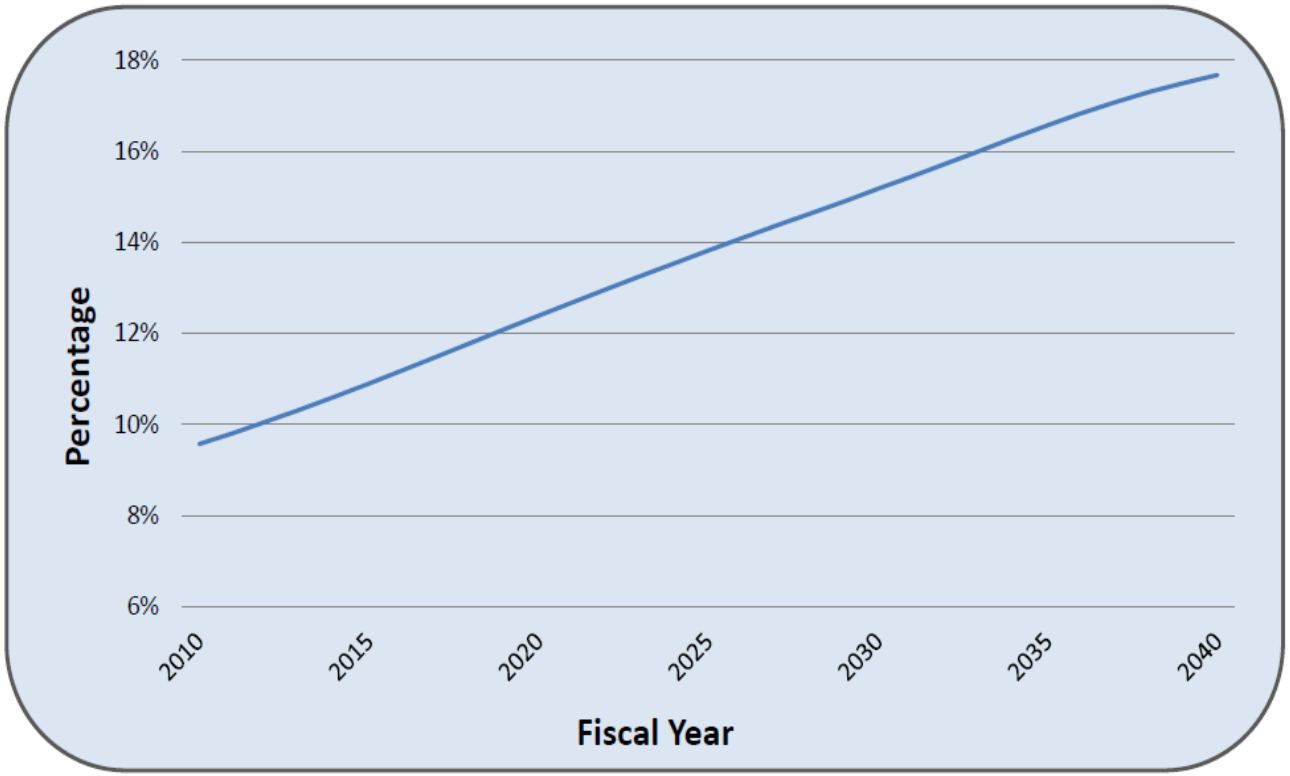
- Veteran suicide rate believed to be higher than that for non-Veterans, but better empirical data was needed for the full Veteran population, not only those receiving VHA services.
  - Although information on suicide among our VHA Veterans is incredibly valuable, it cannot illuminate the full picture of Veteran suicide
  - Findings derived from information on VHA Veterans alone are unlikely to be broadly generalizable to all Veterans given that more than 70% of the 22 million living U.S. Veterans in 2012 were not enrolled in and/or using VHA services.

- There is a growing interest in better understanding suicide among our women Veterans – the fastest growing Veteran subpopulation
  - Findings derived from all Veterans or male Veterans are unlikely to be generalizable to women Veterans who constitute the fast growing subgroup of Veterans.
    - The number of women Veterans using VHA nearly doubled in from 159,630 in FY00 to 292,921 in FY09[7]

Women in the Military

Source: America's Women Veterans: Military Service History and VA Benefits Utilization Statistics, Department of Veterans Affairs, National Center for Veterans Analysis and Statistics, Nov. 23, 2011;
http://www.va.gov/VETDATA/docs/SpecialReports/Final_Womens_Report_3_2_12_v_7.pdf

Women Veterans



Source: Office of the Actuary, Veteran Population Projections Model (VetPop2011), Table 1L

Changes in Suicide Mortality for Veterans Relative to Nonveterans by Gender and History of VHA Service Utilization, 2000-2010[8]

- A more complete picture of the absolute and relative risk of suicide within meaningful Veteran subgroups is necessary to appropriately target and evaluate treatment and prevention programs, allocate suicide prevention resources, and track changes in suicide rates over time.

- **Aims:**
  - Characterize veteran suicide risk compared with risk among nonveterans
  - Characterize differences in relative suicide risk between veterans with and without a history of VHA service use
  - Examine the role gender plays in these differences.

- **Methods**
  - Crude and Age-Adjusted Suicide Rates
  - Comparison of rates using Standardized Mortality Ratios
    - Age adjusted
    - Gender adjusted or stratified

METHODS: Changes in Suicide Mortality for Veterans Relative to Nonveterans by Gender and History of VHA Service Utilization, 2000-2010[8]

- **Office of Public Health State Mortality Database**
  - **PI: Robert Bossarte, PhD**
  - A State-VA Collaborative Project
    - In 2010 VA Secretary Shinseki requested collaboration and support from all U.S states
    - Data on all known suicides reported from 1999 through 2015
  - Data Requested from state death certificates for all adult suicides
    - SSN, Name, DOB, DOD, Age, Sex, Race/ethnicity, Marital status, Education, Cause of death, State & County of residence and death, Veteran Status, Industry, occupation
    - Includes Veterans (not only VHA users) & non-Veterans
    - Validation of Veteran status for all decedents

A resource to study suicide among all Veterans – including those outside of VHA care system!

METHODS: Changes in Suicide Mortality for Veterans Relative to Nonveterans by Gender and History of VHA Service Utilization, 2000-2010[8]

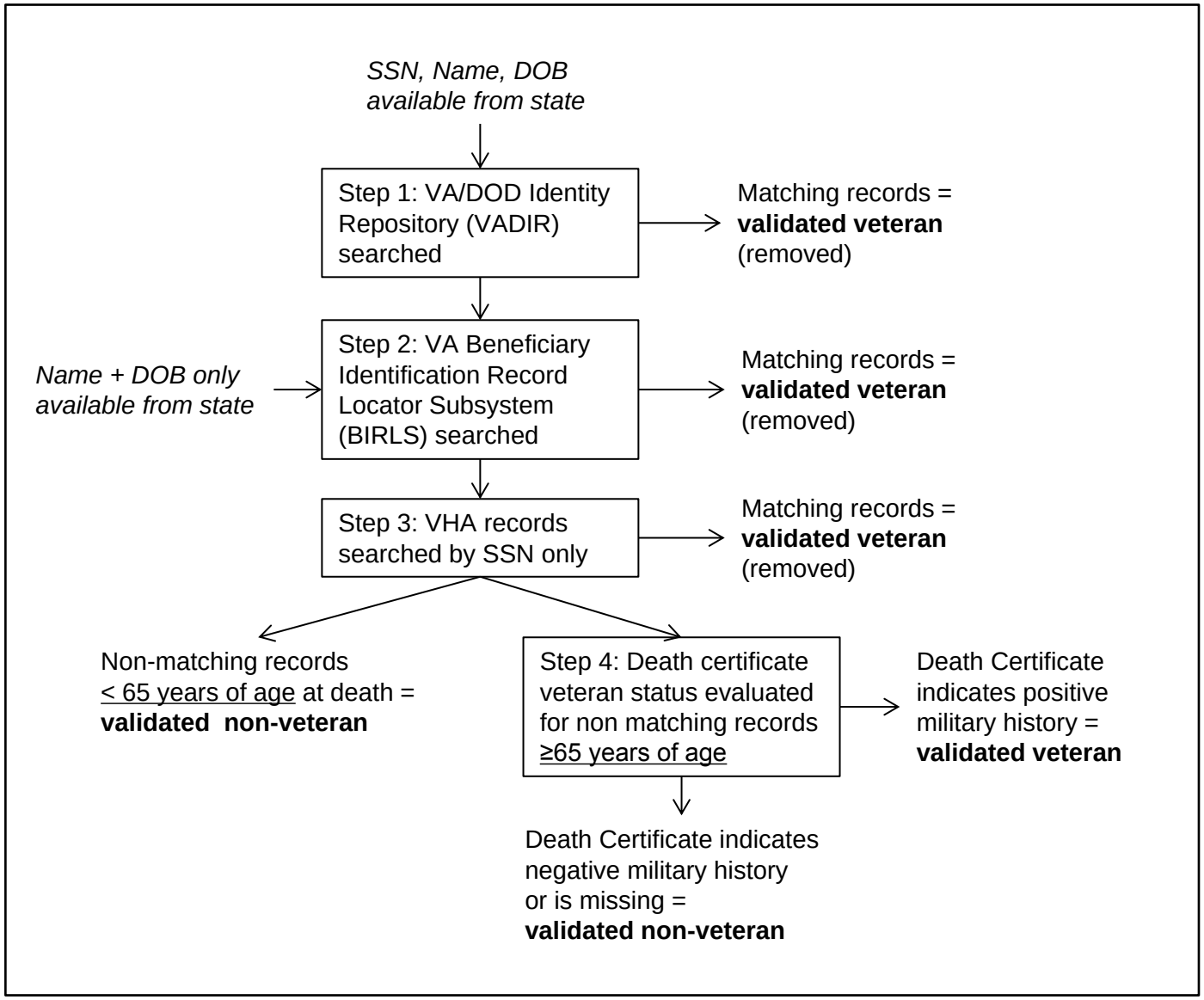
Results from the first 23 States

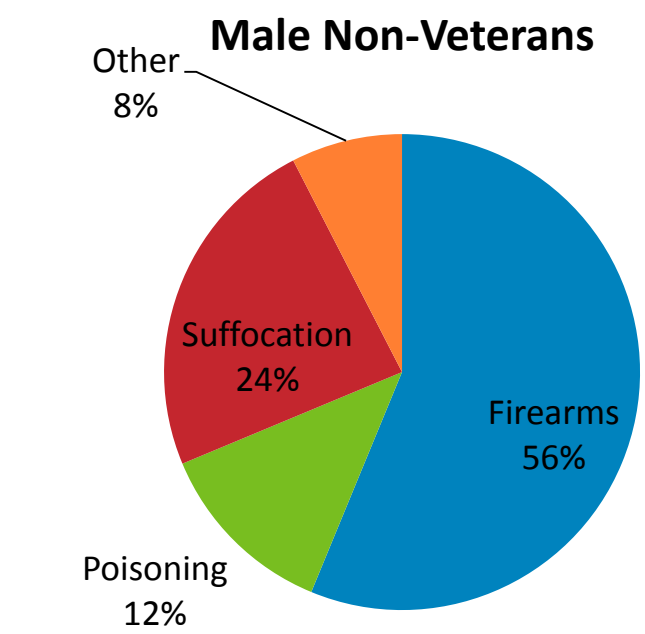
- **173,969 suicide decedents**
  - 25% Veterans (5% VHA users)

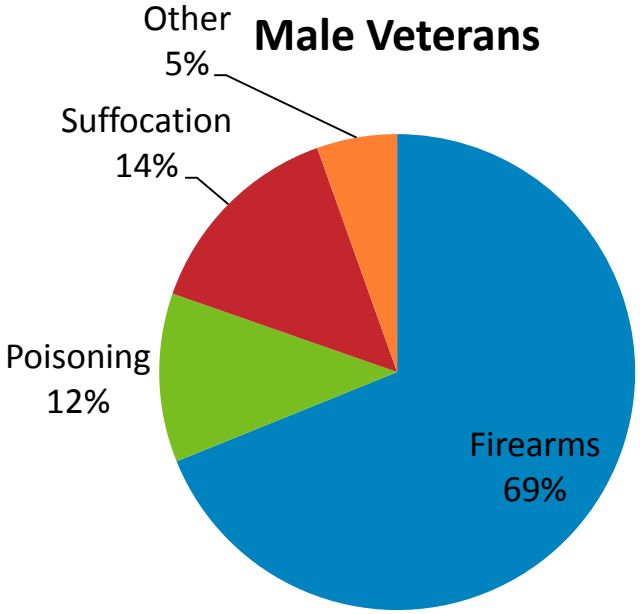
- **4 Northeastern states:** New Jersey, New York, Pennsylvania, Rhode Island
- **5 Midwestern states:** Iowa, Kansas, Michigan, Minnesota, Nebraska
- **8 Southern states:** Alabama, Arkansas, Florida, Louisiana, North Carolina, Tennessee, Texas, West Virginia
- **6 Western states:** Alaska, Idaho, Montana, Oregon, Utah, Washington

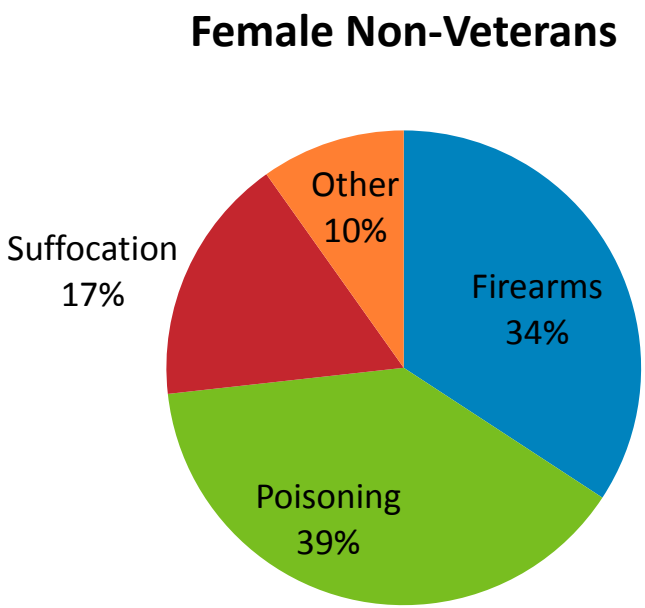
- **State rates similar to the nation as a whole**
  - Ranged from 8.0 to 23.1 per 100,000
  - 10 at or below, and 13 above the 2010 national average (12.4)

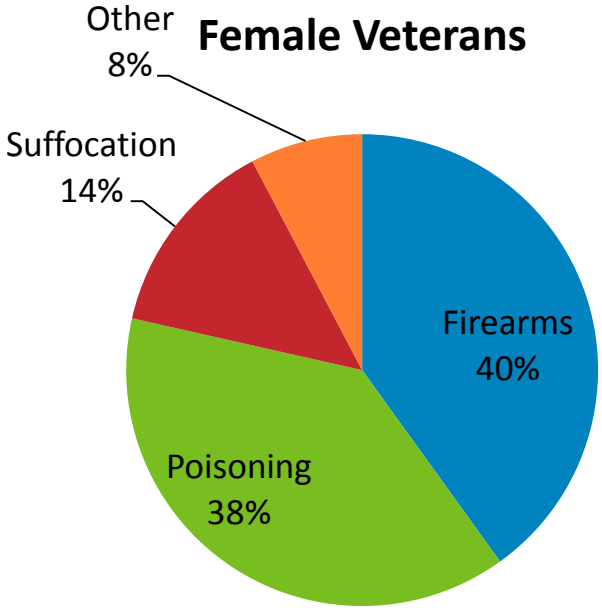
Veteran Status Validation Process




Male Non-Veterans
Other
8%
Suffocation
24%
Firearms
56%
Poisoning
12%


Male Veterans
Other
5%
Suffocation
14%
Poisoning
12%
Firearms
69%


Female Non-Veterans
Other
10%
Suffocation
17%
Firearms
34%
Poisoning
39%


Female Veterans
Other
8%
Suffocation
14%
Firearms
40%
Poisoning
38%

RESULTS: Changes in Suicide Mortality for Veterans Relative to Nonveterans by Gender and History of VHA Service Utilization, 2000-2010[8]

Crude Veteran and Nonveteran Suicide Rates per 100,000 Lives at Risk: 2000-2010

	Nonveterans			Veterans				
Year	Total	Male	Female	Total	Male	Female	VHA	Non-VHA
2000	11.1	20.1	4.8	28.6	28.8	24.7	34.5	27.6
2001	11.4	20.5	4.9	29.4	29.6	26.4	32.4	28.8
2002	11.8	21.0	5.1	30.1	30.5	24.3	32.1	29.6
2003	11.5	20.4	5.0	31.3	31.4	29.3	29.2	31.8
2004	11.8	20.5	5.4	30.8	31.1	26.6	30.1	31.0
2005	11.8	20.4	5.3	31.8	32.0	28.5	29.9	32.3
2006	11.9	20.9	5.2	31.5	31.9	26.9	29.8	32.0
2007	12.2	21.0	5.5	33.1	33.2	30.7	28.8	34.3
2008	12.7	22.0	5.6	33.9	34.2	30.4	30.9	34.8
2009	12.3	21.4	5.3	35.7	36.0	31.7	30.1	37.4
2010	12.4	21.4	5.4	35.9	36.0	34.6	27.6	38.7

12% Increase

Males: 6%
Females: 13%

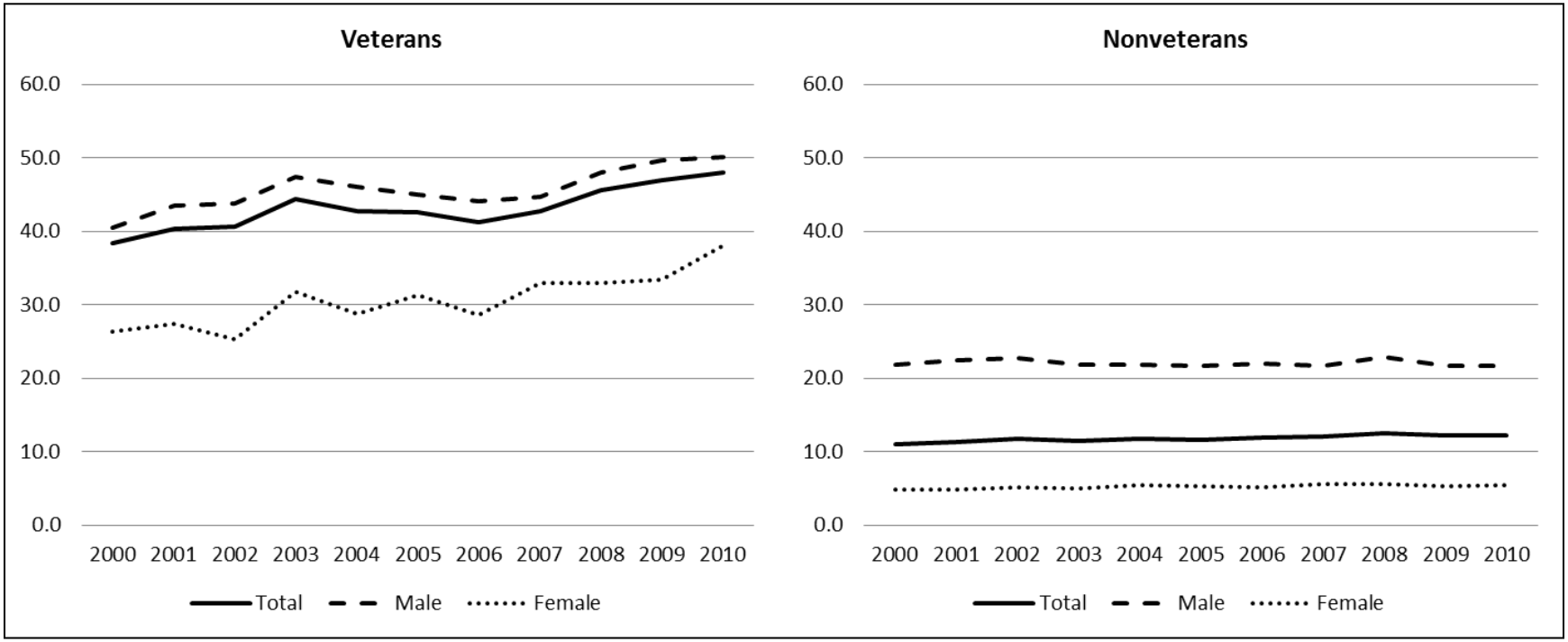
25% Increase

Males: 25%
Females: 40%

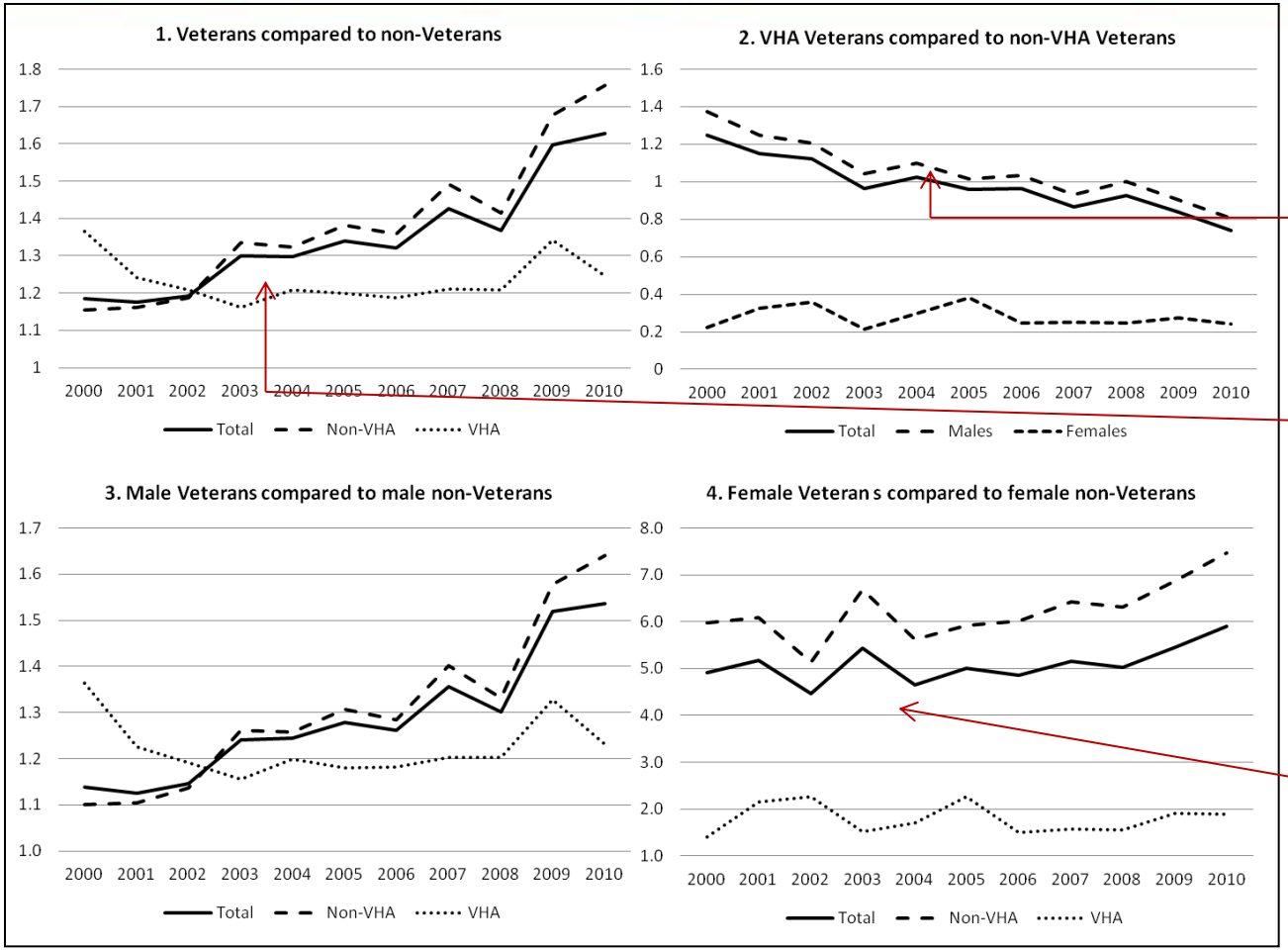
Only decrease observed

RESULTS: Changes in Suicide Mortality for Veterans Relative to Nonveterans by Gender and History of VHA Service Utilization, 2000-2010[8]

Direct Age-Adjusted Veteran and Nonveteran Suicide Rates per 100,000 Lives at Risk: 2000-2010



RESULTS: Standardized Veteran Suicide Mortality Ratios: 2000 to 2010



VHA Veterans fare better than non-VHA Veterans since 2003

Overall decline among VHA Veterans relative to increase among non-VHA

Greatest excess risk among female Veterans, especially those outside VHA care system

Results Summary

- The number of observed veteran suicides was significantly higher than expected had age- and gender-specific suicide rates been the same as those observed for nonveterans:
  - 20% in 2000
  - over 60% in 2010
  - Increases in crude and relative rates for Veterans more pronounced among females
- Since 2003, SMRs for VHA Veterans: non-VHA Veterans < 1
  - The observed number of suicides for VHA veterans was less than expected had their age- and gender-specific rates been the same as those for non-VHA veterans: 2010 SMR=0.74, 95% CI=0.69-0.79.
- The decline in relative risk among VHA veterans was primarily observed for males.
  - No clear period(s) of change emerged for female VHA veterans who experienced approximately 80% fewer suicides than expected compared to female veterans outside the VHA system
- Greatest excess risk for suicide observed among female Veterans, particularly those outside the VHA

Key Discussion Points

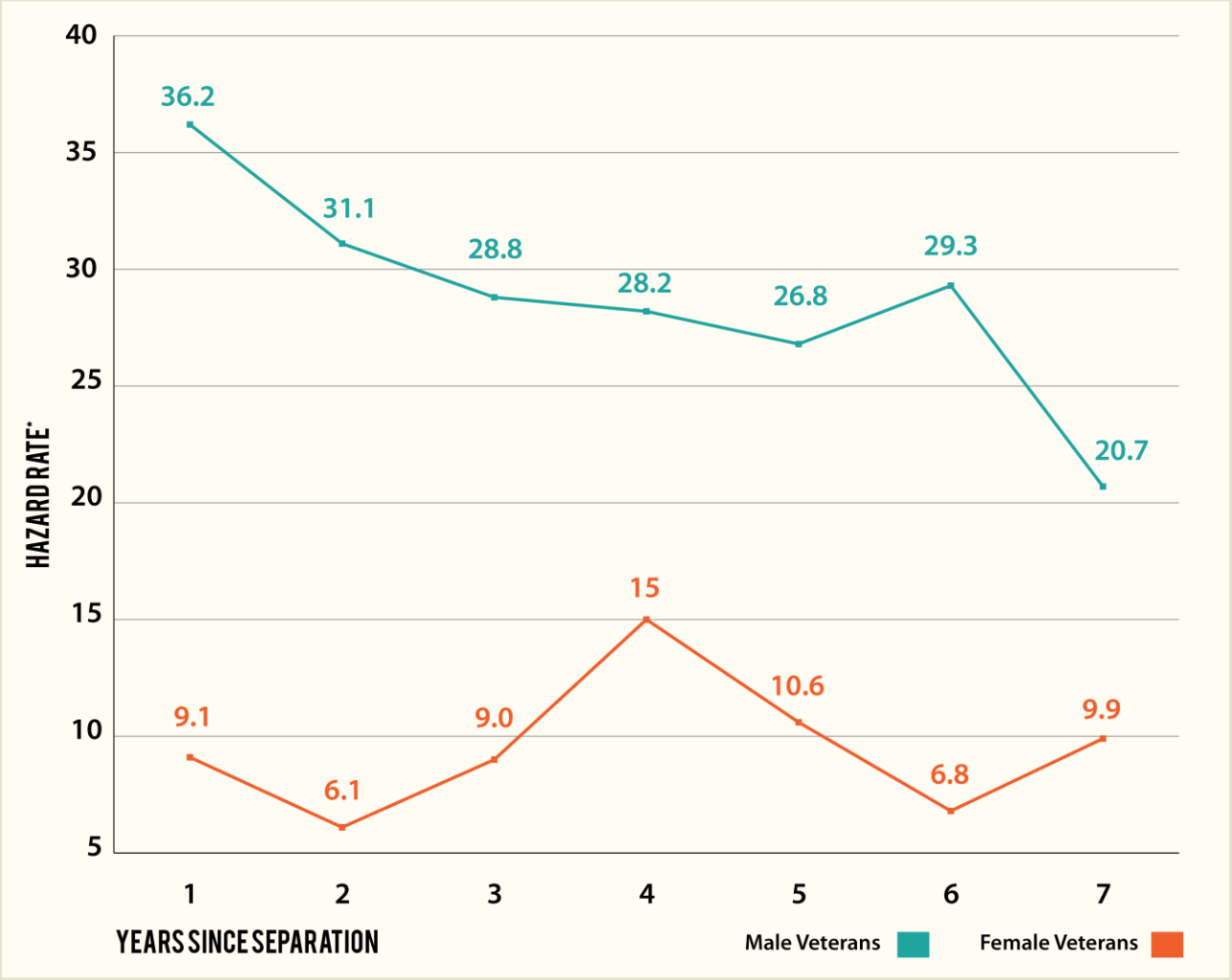
- First study to directly compare veteran and nonveteran suicide risk using a validated variable for veteran status while documenting differences in suicide rates between veterans who were VHA service users and those who were not
- Study findings clearly suggest that veterans without a history of VHA service use are at particularly high risk of suicide
  - May choose not to use VHA services for a variety of reasons
  - Some may not be eligible or be unaware that they are eligible to care
  - difficulties accessing care,
  - Misconceptions regarding quality of care
  - perceived stigma surrounding seeking mental health care
- Plateau observed among VHA-utilizing veterans from 2004 to 2009 occurred in contrast to a rising suicide rate among non–VHA-utilizing veterans
  - Likely that VA's Mental Health Enhancement Initiative and Suicide Prevention Program are successfully countering rising veteran suicide rates.

Implications and Next Steps

- This manuscript has had considerable impact in a short time:
  - Media Response
    - LA Times: **Suicide rate of female military veterans is called 'staggering'**
    - LA Times: **VA may be saving veterans from suicide**
    - VAntage Point: **Study shows risk for suicide lower among men and women Veterans who use VA care**
  - Further Research
    - Continued efforts to analyze state data and NDI data within the Suicide Data Repository to fully understand Veteran suicide risk
      - Gender differences
      - Identify effective components of VA Suicide Prevention Program and MHS
    - Bullman, 2015: Risk of suicide decreased over time for males but varied over time for females, according to a study of suicide risk among Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) Veterans in the seven years following separation.
  - Policy
    - Inquiries from congress & external stakeholders
    - **2/5/16** - U.S. Senators Barbara Boxer (D-CA), Joni Ernst (R-IA), Richard Blumenthal (D-CT) and Sherrod Brown (D-OH) introduced the Female Veterans Suicide Prevention Act, in response to the alarming increases in suicide among female veterans

RISK OF SUICIDE

BY NUMBER OF YEARS SINCE SEPARATION FROM MILITARY SERVICES: OEF AND/OR OIF VETERANS STRATIFIED BY GENDER



*A hazard rate is used to approximate suicide risk over time. The hazard rate is per 100,000 Veterans alive at the beginning of the interval.

Bullman, 2015[9]

Resources

VA Suicide Prevention Program

- 24-hour per day
  - Crisis hotline (1-800-273-8255)
  - Veterans Crisis Online Chat (http://www.veteranscrisisline.net/ChatTermsOfService.aspx)
  - Comprehensive website with numerous other resources for Veterans and their families (http://www.mentalhealth.va.gov/suicide_prevention/).
- At least one full-time Suicide Prevention Coordinator (typically a nurse or social worker) is assigned to each VA medical center and large outpatient clinic and is responsible for:
  - Identifying and tracking high-risk Veterans (all attempters, and patients with serious ideation or others clinically determined to be at high risk for suicide) and tracking appointments and coordinating enhanced care between Veterans and providers
  - Educating providers, Veterans, families and communities about suicide warning signs and available services
  - Establishing and maintaining a gatekeeper training program with all VA staff
  - Working with community organizations to improve recognition of Veterans at high risk

Resources

Women's Health Services

- VA has a Women Veteran Program Manager at every medical center who functions as an administrative leader for the Women's Health Program, and an advocate for women Veterans.
- VA developed The Women Veterans Call Center, 1-855-VA-WOMEN (1-855-829-6636), to educate women Veterans about VA benefits and services. Call Center staff make referrals to Women Veteran Program Managers (WVPM), the Health Eligibility Center, the Veterans Benefits Administration and suicide and homeless crisis lines as needed.
- VA offers a full continuum of mental health services to women Veterans
  - Some facilities have established formal outpatient mental health treatment teams specializing in working with women Veterans.
  - VA has residential and inpatient programs that provide treatment to women only, or that have separate tracks for men and women. Some of the women-only programs focus on MST specifically while others focus on women's mental health care in general (including MST).

Poll Question #3

- Would you like more information on this topic and/or time for discussion and questions in the future? (check all that apply)
  - No, this presentation was sufficient
  - Yes, personal correspondence (email, etc.)
  - Yes, twitter chat
  - Yes, VA Vantage meeting

References

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Questions/Comments?

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